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APHIS-PPQ

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Pest

A CLICK BEETLE
Conoderus (Heteroderes) rufangulus (Gyllenhal)

Selected
Synonyms

Heteroderes asininus (Germar)
H. atlanticus Candeze
H. azoricus Tarnier

Order: Family

Coleoptera: Elateridae

Economic
Importance

In Chile, C. rufangulus is little known in spite of being very common on field crops, vegetables, and pasture in the central area. The larva is a secondary pest on sugar beet, potato, radish, corn, bean, and several other crops (Gonzalez 1980).

General
Distribution

This species occurs in Argentina, Azores, Brazil, Chile, and Uruguay (Gonzalez 1980).



Conoderus rufangulus distribution map.

Hosts

The recorded larval host list includes Beta spp. (beets), Brassica rapa (turnip), Phaseolus spp. (beans), Raphanus sativus (radish), Solanum tuberosum (potato), and Zea mays (corn) (Gonzalez 1980, Gonzalez et al. 1973). In the laboratory, the larvae feed on Daucus carota (carrot) (R. H. Gonzalez, pers. comm.).

Characters

ADULTS (Fig. 1A) - Description and comparison prepared by E. J. Ford. Length 8-11 mm. Body dark brown except for rufous anterior pronotal angles. Dorsum uniformly covered with fine, aeneous, recumbent pubescence. Head (Fig. 2) with complete carina on frons between antennal bases. Antenna reddish brown, fourth segment longer than third or fifth. Maxillary palpi 3 segmented, apical segments obtusely triangular. Pronotum doubly punctate (Fig. 3): larger punctures about six times larger than smaller punctures. Pronotal hind angles prominent, carinae extend forward nearly half length of side margins. Scutellum oval, slightly longer than wide. Elytral striae (Fig. 4) rather fine, deep, punctate (Fig. 5). Legs more or less yellowish brown, tarsi lighter; fourth tarsal segment moderately lobed; hind coxal plates longest at middle.

(Fig. 1)



A



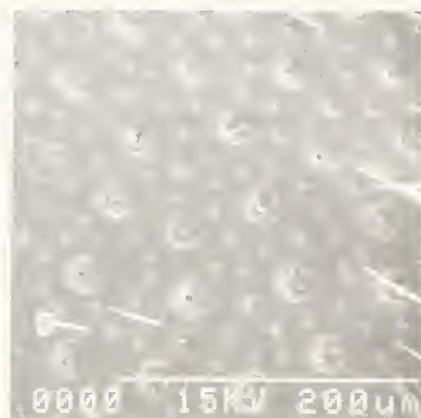
B

Adults, dorsal view. A. Conoderus rufangulus. B. Grammephorus minor (From Gonzalez 1980).

(Figs. 2-5)



2



3



4



5

Conoderus rufangulus adults. 2. Head with carina, frontal view 50 X. 3. Pronotal surface showing punctures, dorsal view. 4. Elytra striae, dorsal view. 5. Dorsum showing pubescence and punctation (Electron micrographs by N. Chaney, Plant Stress Laboratory, EM Facility, Plant Physiology Institute, Agricultural Research Service).

Grammophorus minor Schwartz (an elaterid) (Fig. 1B), sometimes intercepted with fruits and vegetables from Chile, is similar in size and color to C. rufangulus, but the former species may be separated by the single punctation of the pronotum, absence of lobes on the fourth tarsal segments, coarser and sparser pubescence, and carinae of the pronotal hind angles extending only about one-fourth the length of the side margins.

LARVAE - Length 14-18 mm, width 2.25 mm. Mature head creamy white, thorax and last abdominal segment reddish brown to dark brown. Caudal lobes on 9th abdominal segment separated by deep V-shaped notch (R. Gonzalez, pers. comm.).

No literature is available for eggs or pupae.

Characteristic
Damage

Larval feeding on tubers and fleshy roots results in superficial scars (R. Gonzalez, pers. comm.).

Detection
Notes

C. rufangulus adults were found by PPQ over 90 times since 1975 hitchhiking in fruit shipments from Chile. Shipments were most commonly apples, pears, and melons. These fruits are subject to inspection under Title 7, Part 319.56, of the Code of Federal Regulations. Because this pest and others commonly hitchhike with grapes and various stone fruits from Chile, fumigation as a condition of entry is now required for these fruits. In 1982, this beetle was intercepted in a chrysanthemum cut-flower shipment from Peru. This pest has not been reported from Peru in the available literature.

Adults are found in the foliage of various low-growing crops, weeds, and occasionally in the foliage of fruit trees (Gonzalez 1980). They are attracted to white and black lights at night (R. Gonzalez, pers. comm.).

For identification, submit suspect adult specimens, pinned and labeled. Preserve larvae and pupae in alcohol.

Biology

This species overwinters as adults in protected places such as under loose bark of grapes. Larvae are found at very low densities associated with assorted plant roots, notably grasses, corn, and fleshy roots (sugar beet). No other information on biology is available (R. Gonzalez, pers. comm.).

Literature
Cited

Gonzalez, R. H. Insectos y acaros de importancia cuarentenaria en fruta de exportacion. Santiago, Chile: Asociacion de exportadores de Chile y corporacion de desarrollo de las ciencias agropecuarias (codeciagro) Facultad de Agronomia, Univ. de Chile; 1980: 109-110. Economic importance translated from the Spanish by J. E. Gilbert, PPQ, APHIS, USDA, Preclearance Program Coordinator, Santiago, Chile, and M. J. Dagro, PPQ, APHIS, USDA, Professional Development Center, 195 Thomas Johnson Drive, Frederick, MD 21704. General distribution translated by E. J. Ford, PPQ, Area Identifier, Room 308, Custom House, 40 South Gay Street, Baltimore, MD 21202.

Gonzalez, R. H.; Arretz V. P.; Campos, L. E. Catalogo de las plagas Agricolas de Chile. Publicacion en Ciencias Agricolas 2. Santiago, Chile: Univ. de Chile, Facultad de Agronomia; 1973: 31, 43, 52, 57, 59.

